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ABSTRACT

Developed to provide seventh and eight grade students information about careers in the health occupational cluster, this booklet may be used to integrate career information with various subject areas. (It is one of several student booklets developed for use in the Ohio Career Orientation Program at grades 7 and 8 to assist students in making tentative career decisions for exploration activities in grades 9 and 10.) Ten major categories of health occupations are briefly described: operations, health information systems, health services delivery, mental health, accident and emergency services, dental science and services, medical science and services, biologic science and technology, health services administration, and pharmaceutical science and services. A closer look at seven specific careers is provided through brief case studies of one individual working in each job: hospital administrator, medical record technician, intensive care nurse, physician, dentist, occupational therapist, and pharmacist. Related jobs are listed under each. Brief exploration activities are suggested through which students can learn more about the jobs. A chart is provided with notes on how various school subjects (home economics, English, social science, industrial arts, physical education, music, science, art, and mathematics) are related to the health cluster careers. A list of qualities needed for health careers and a list of sources for additional career information (professional associations and specific government bulletins) are included along with a vocabulary list and information on projected job opportunities in the various areas. (JT)

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Career Orientation Series

The Health Cluster

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CE 010 409

These symbols represent seven career orientation concepts that are integral parts of the student's personal, educational and vocational development. Suggested student activities relating to the seven developmental concepts appear in the book. The corresponding symbol will identify the specific concept to which each activity most directly relates.

World of Work

This concept relates to work values, the variety and nature of occupations, work families and their interdependency, and methods of studying and classifying occupations.

Economics

This concept emphasizes the person as both a worker earning income and as a consumer dispersing income.

Employability and Work Adjustment

This concept deals with obtaining and holding a job and advancing in a career.

Decision Making

This concept relates to all the others, involving a process that is necessary to all facets of society.

Self

This concept deals with how and what a person thinks of the self—attitudes, perceptions and self-evaluation of interests, aptitudes, achievements and values.

Individual and Environment

This concept is concerned with an understanding of the individual as he or she relates to the environment—the role each person plays in the home, school, community and work.

Education and Training

This concept relates to the learning of skills, ideas and appreciations that the individual needs in order to experience a successful life.

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Today's urbanized technological society has brought an urgency for an abrupt turn-around in thinking about the place of career education in our schools. Our economy's rapidly changing character, with large industry remote from residential areas, surrounded by fences, and protected by security guards, does not permit youngsters to see their parents or others at work. Many children's parents are recipients of public assistance checks, a situation that compounds the problem of teaching job-centered values.

Career education begins in kindergarten and continues through Grade 12. Motivation, orientation, exploration, and actual preparation are essential components of meaningful education. Instructional materials to assist classroom teachers in implementing a well-planned and sequentially organized curriculum are vital in the redesign of education.

We trust these instructional materials will be of significance in serving seventh and eighth grade students in preparing for rewarding opportunities in the world of work.

Martin W. Essex

Martin W. Essex
Superintendent of Public Instruction

The World of Health Care

A car skids on a rain-slick road and crunches into a tree. The driver, his wife and two children inside are injured. Residents of a nearby home hear the crash and call police. The police summon an ambulance, and soon the family is on its way to a hospital. Abruptly, the world of health care has affected that family's lives more intensely, perhaps, than ever before.

When they are wheeled into the hospital, the skills of many people begin to be used. Among those people are the hospital **administrator,*** a doctor, a nurse, a pharmacist, a medical record **technician,** a dentist, and an occupational **therapist.**

This book will help you learn about health careers. The focus will be on the seven people mentioned who are typical of those who may have been called upon to help the injured family. Other health careers will be explained in lesser detail. All are involved in determining people's health needs and finding ways to meet them. They affect the lives of every family, not only when accidents occur, but also in preventing accidents and diseases and diagnosing and treating those conditions.

All of us should strive to be as healthy as possible so that we can live productive and happy lives. People who work in health careers help us attain the goal of maximum health. From birth to death, they touch our lives many times and in many ways. Let's have a close look.

** Words printed in boldface type are included in the Vocabulary on pages 58-63.*

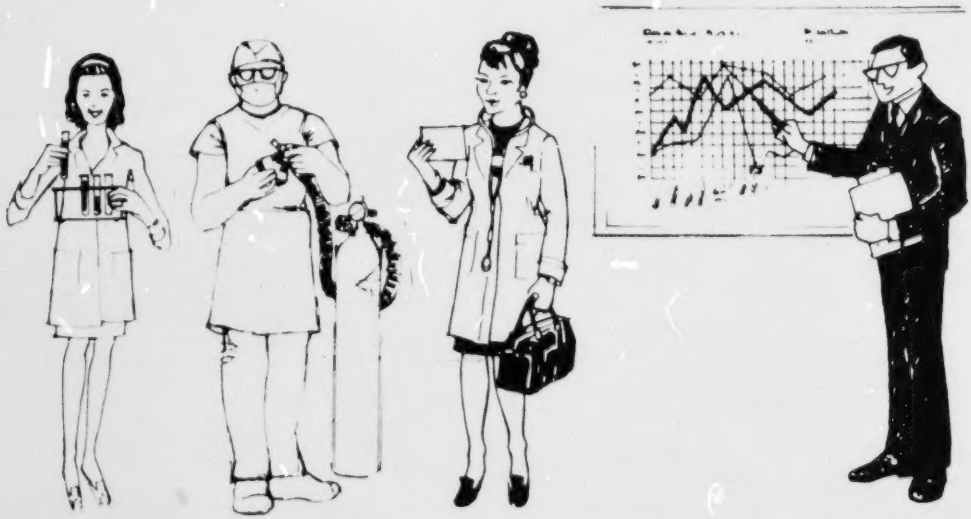
There are more than

200 Health Careers

The health care field is the nation's third largest industry. More than 3.8 million persons work in health-related occupations.

Health careers are open to persons with interests in medicine, engineering, mathematics, nursing, sciences, music, art, photography, crafts, sports, food, computers and others. Each occupation plays an important part in the health care of all Americans. For example, the injured family in the hospital will be helped by many people: an **orderly,** a **pathologist,** an **anesthetist** and a ward secretary are just a few. The dentist who later will repair the teeth of one of the family will be assisted by a lab **technician,** a **dental ceramist,** a **dental hygienist** and a secretary.

Health careers vary from the highly skilled to the fairly simple, from administrative to clerical, from occupations requiring the ability to deal well with people to those requiring knowledge of tools and equipment.



Lab Technician Anesthesiologist Physician Hospital Administrator

The hospital administrator, one of the people you will meet a few pages later in this book, must know much about how a hospital runs. His job is to keep it running. He also must know how to deal with all kinds of people. Administrators control the lives of many employees. They need not know how to operate the many machines used in a hospital—others do that for them. Physicians, however, must be able to handle certain pieces of equipment well. In addition, they must be able to deal with people effectively in very personal and sensitive situations. Medical record clerks, on the other hand, have little to do with handling people. Clerks must be efficient in typing, filing and spelling. There is room for all kinds of people in health occupations.

Ten General Categories into Which People in Health Careers Can Be Classified:

1. *Operations* by people who manage and supervise medical facilities and personnel

2. *Health Information Systems* by those who prepare, maintain, store, and retrieve medical records, illustrations and photographs, and **vital statistics**

3. *Health Services Delivery* by those who actually provide medical care through health maintenance, community health services, hospital and long-term services, **pediatric** services, and **geriatric** services

4. *Mental Health, Mental Illness, and Retardation* by those who specialize in caring for others' mental health

5. *Accidents, Injuries and Emergency Services* by those who provide care in first aid and rescue, medical emergencies, and prevention of accidents and poisoning

6. *Dental Science and Services* by those who care for teeth and gums

7. *Medical Science and Services* by those with specialized knowledge and skills who assist **general health practitioners**

8. *Biologic Science and Technology* by those who make and operate devices for analyzing and **monitoring** body functions and for artificially replacing body fluids and parts

9. *Health Services Administration* by those who regulate, govern, and inspect health care facilities and programs

10. *Pharmaceutical Science and Services* by those who produce, dispense, and control medicines and drugs

The Job Market

The ten categories listed on the preceding page include health personnel requiring different levels of education and training. For some, a basic educational preparation of at least a **baccalaureate** is necessary; for others, less than a college **Bachelor's degree** will do. Data obtained from educational institutions that formally train these people can be used to predict what the United States job market will be in the future. How the supply of selected groups of health professionals will expand over the 1970-1990 period is shown in Table 1 and Table 2 on pages 8 and 9. (Data taken from U.S. Department of Health, Education, and Welfare Publication (HRA) 7S-38, *The Supply of Health Manpower*, Washington, D.C.: U.S. Government Printing Office, 1974.)

The Pay

Health occupations provide different ranges of earnings. **Physicians** have the highest average earnings of any occupation in America. The net income of physicians who provide patient care services will vary according to the doctor's experience, where he or she practices, the number of patients seen, etc.

Earnings for the other health occupations that can be entered with up to two years of **post-high school** education are about the same as average earnings for nonsupervisory workers in private industry (except farming). Health workers in occupations that require a college degree earn from one and one-half times to twice the average earnings of others with degrees.

Table 1
Selected Health Careers
Requiring at Least a Baccalaureate

Profession	Year	Number active Jan. 1	Changes in supply Jan. 1–Dec. 31: Losses deaths and retirements	Graduate additions	Net gains	Number active Dec. 31
Registered Nurses (R.N.)	1970	—	—	—	—	727,000
	1980	1,058,874	31,766	72,518	40,752	1,099,626
	1990	1,434,573	43,037	75,209	32,172	1,466,745
Physicians (M.D. and D.O.)	1970	—	—	—	—	323,200
	1980	432,657	5,812	20,022	14,210	446,767
	1990	578,619	6,915	22,055	15,140	593,759
Pharmacists	1970	—	—	—	—	129,287
	1980	143,296	3,647	6,440	2,793	146,089
	1990	176,103	3,734	7,484	3,750	179,853
Dentists	1970	—	—	—	—	102,220
	1980	123,200	2,400	5,370	2,970	126,170
	1990	152.210	2,740	5,440	2,700	154,910
Medical Technologists	1970	—	—	—	—	45,000
	1980	76,216	3,687	8,086	4,399	80,615
	1990	119,749	4,821	8,590	3,769	123,518
Optometrists	1970	—	—	—	—	18,445
	1980	21,361	530	988	458	21,819
	1990	27,203	606	1,381	775	27,978
Dietitians	1970	—	—	—	—	15,300
	1980	17,715	844	1,303	459	18,174
	1990	22,020	1,060	1,384	324	22,344
Speech Pathologists and Audiologists	1970	—	—	—	—	13,300
	1980	34,121	1,442	4,386	2,944	37,065
	1990	67,644	2,201	5,482	3,281	70,925
Physical Therapists	1970	—	—	—	—	11,550
	1980	21,665	962	2,327	1,365	23,030
	1990	35,370	1,270	2,472	1,202	36,572
Occupational Therapists	1970	—	—	—	—	7,300
	1980	11,230	626	1,157	531	11,761
	1990	16,451	800	1,229	429	16,880

Table 2
Selected Health Careers
Requiring Less Than a Baccalaureate

Profession	Year	Number active Jan. 1	Changes in supply Jan. 1—Dec. 31			Number active Dec. 31
			Losses deaths and retirements	Graduate additions	Net gains	
Licensed Practical Nurses (L.P.N.)	1970	—	—	—	—	400,000
	1980	542,337	47,176	70,726	23,550	565,887
	1990	795,628	55,375	79,533	24,158	819,786
Radiologic Technologists	1970	—	—	—	—	41,000
	1980	86,967	5,057	11,645	6,588	93,555
	1990	154,834	6,649	13,095	6,446	161,280
Dental Assistants	1970	—	—	—	—	9,200
	1980	35,783	3,585	6,913	3,328	39,111
	1990	68,574	4,822	7,774	2,952	71,526
Dental Hygienists	1970	—	—	—	—	15,100
	1980	31,814	2,650	5,022	2,372	34,186
	1990	55,529	3,522	5,647	2,125	57,654
Certified Laboratory Assistants	1970	—	—	—	—	6,700
	1980	20,376	1,559	3,444	1,885	22,261
	1990	39,409	2,120	3,873	1,753	41,162
Respiratory Therapists	1970	—	—	—	—	3,850
	1980	9,703	503	1,311	808	10,511
	1990	18,024	690	1,474	784	18,808
Dental Laboratory Technicians	1970	—	—	—	—	1,600
	1980	6,388	101	781	680	7,068
	1990	13,587	172	879	707	14,294
Occupational Therapy Assistants	1970	—	—	—	—	600
	1980	3,916	227	666	439	4,355
	1990	8,398	330	749	419	8,817
Cytotechnologists	1970	—	—	—	—	2,400
	1980	4,386	313	594	281	4,667
	1990	7,156	424	668	244	7,400
Medical Record Technicians	1970	—	—	—	—	3,800
	1980	4,729	300	471	171	4,900
	1990	6,320	390	529	139	6,459

Planning for Health Career Exploration

Only we human beings can reason through life situations, consider alternative courses of action, and, to a large extent, direct our own behavior. The basis for decision making is the desire for a specific outcome in the future. In deciding whether or not to select a health profession, it becomes necessary to examine several components:

Individual and Environment

- What special interests and abilities do people in specific health careers have in common? How do these interests and abilities relate to the community?

World of Work

- How many health career opportunities are there in your community?
- How did the local health professionals become aware of their job opportunities?

Education and Training

- What skills, knowledge, and attitudes are necessary for the various health careers?
- How are these qualifications obtained by those practicing the health profession?

Economics

- How well are those in health occupations paid compared to people employed in other clusters?
- How well do the various health professionals live on their incomes?
- How much time and money did the health professional spend to become qualified for employment?

Employability and Work Adjustment

- What special job hunting skills are required for a health career?
- What personal behavior and **interpersonal** relationships lead to job success?

Self

- What health careers, if any, appeal to you?
- What interests and abilities do you have that are similar to those who are successful health professionals?
- What resources (ideas, attitudes, skills and values) do you have that will help you qualify for one or more of the health careers?

A Close Look at Seven People Who Work in Health Careers

ALL
might have been involved with the family hurt in the car accident

Robert E. Moss Hospital Administrator

If our injured family had been taken to Hillcrest Hospital, Robert E. Moss would be the man in charge of seeing that the hospital helped the medical staff do its job well.

About 700 persons work under his direction. Most of them are full-time employees. Their jobs are to make Hillcrest Hospital function efficiently and with concern for the patients.

Mr. Moss did not become a hospital administrator overnight. It took much education and long experience. He is a graduate of two universities. He obtained his Bachelor's degree at Evansville University, Evansville, Indiana, and his **Master's degree** in hospital administration from Northwestern University, Evanston, Illinois. Most hospitals require a Master's degree, and about forty colleges and universities offer programs leading to that degree. The program is generally a two-year course of study and on-the-job training.

"The trend today," Mr. Moss says, "is to get a Bachelor's degree in a school of business, with emphasis on business administration, and a major in hospital administration, then get a Master's degree."

Mr. Moss helps care for people's health, but running a hospital is like running a big business, too. Mr. Moss calls himself "a facilitator,"

An administrator will visit patients.

one who enables others to do their jobs. "We provide services for doctors. We carry out their instructions. We provide them with **facilities.**"

That is a big job. For example, when the injured family is brought to the emergency room, and a nurse needs a certain type of bandage quickly, the bandage has to be there. If pain-killing drugs are needed, the drugs and **syringes** must be on hand. The lights must be working. There must be heat in the hospital. Employees of Mr. Moss see to it that these items are provided.

Mr. Moss, who is 50 year old, worked his way up to become the administrator of Hillcrest Hospital, which is classified as medium-sized (it has 250 beds). He started as an assistant administrator of a smaller hospital in Ohio. Next, he became an administrator of a hospital in Indiana. In 1957, he returned to Ohio as administrator of a hospital that was later torn down and replaced by the larger, more modern Hillcrest Hospital.

He has two associate administrators, who are examples of another career in hospital administration. "One of them is studying for his Master's degree on weekends and at home," Mr. Moss says. The other came to Hillcrest Hospital after being an administrator in a state mental health institution and an assistant at a general hospital. He already has a Master's degree in hospital administration.

An administrator helps architects plan hospital growth or improvements.

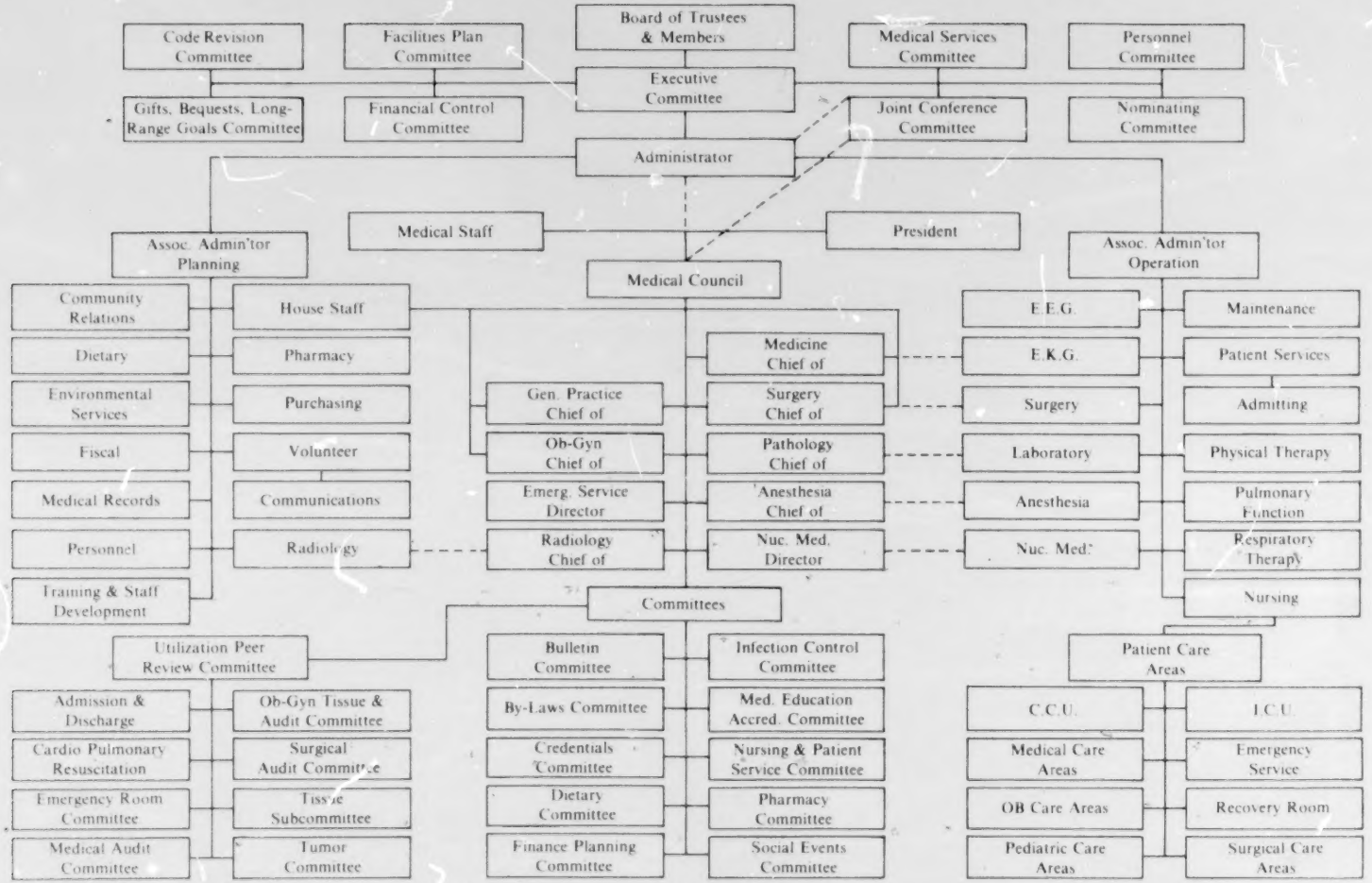
"We do much planning," Mr. Moss says, "establishing the role of the hospital, both short-range and long-range."

In some ways, his role is that of a juggler. He describes what might occupy one day for him:

"I might meet with the medical staff, make a decision on purchasing a piece of equipment, interpret an employee policy, attend a committee meeting of the hospital association downtown, review a program proposed by a department head, hire a key person, answer questions from doctors or patients or nurses, and go through a stack of mail and telephone calls. Each day is different," he adds, and that is one reason why he likes his work.

A job with so much responsibility also means long hours, at times, with evenings away from family and home. It means worries and pressures and being on call twenty-four hours a day in case of an emergency at the hospital.

A Hospital
Functional Plan of Organization



These responsibilities, pressures and duties have their reward financially. Mr. Moss is able to afford a home in a beautiful semirural development.

Mr. Moss emphasizes that hospital administrators must like to work with people. They direct many people, report to others, and cooperate with others, depending upon their roles in the hospital or in the community. Mr. Moss, for example, is involved in a proposal to expand the hospital. He must meet with the architect, physicians, government agencies, the general public, health associations, and the executive committee and trustees to whom he reports.

Why would someone want to become a hospital administrator? "I was attracted to hospital administration because I would be doing a worthwhile community service, beyond the ordinary, as well as making a good living," Mr. Moss says.

There are more than 17,000 hospital administrators or assistants in the United States. About 15 percent of these are women. Not all who go into hospital administration become heads of hospitals. There are thousands of middle-management jobs in both private and public institutions. Some community colleges offer an **Associate degree** in health administration for those who do not think they can go to college for four or more years.

Boys and girls interested in this occupation should study basic science courses and business courses in high school. Because a hospital administrator has to deal with so many kinds of people, including patients under stress, he or she should also study social sciences and should be trained in public speaking.

Some Related Jobs:

- Head of a department, for example, the purchasing department
- Community relations director
- Personnel director
- Data handler (computers)
- Hospital regional officer
- Health insurance executive
- State director of health services
- Professor in a college where hospital administration is taught

Yvonne Brown, A.R.T. Medical Record Technician

When our injured family was brought to the hospital, the first of many record-keeping tasks began as they entered the emergency room. Eventually, the records would contain information about treatment, medicines, reactions—a permanent document of the history and condition of the illness or injury of each patient. Information on records already kept for the family by their doctor would be **correlated** with the new information.

It is the job of medical record technicians like Mrs. Brown to assist the medical record administrator. They perform the technical tasks associated with the maintenance and use of medical records. Records are essential for the medical care of the patients. They are also valuable for legal, research, insurance and planning reasons.

Most medical record technicians work in hospitals like Hillcrest, but an increasing number are finding jobs in clinics, nursing homes, community health centers and health maintenance organizations.

Keeping accurate records is part of a medical record technician's job.

Mrs. Brown became a medical record technician after taking courses at Cuyahoga Community College in Cleveland. She is a high school graduate and the mother of two young children.

"I was interested in the health field, but I knew I didn't want to work as a nurse. I get too wrapped up in people's problems," she said. "By becoming a medical record technician, I can help those who care for people's health but not have to deal directly with sick people."

The A.R.T., **Accredited** Record Technician, works with many departments in a hospital or health center. Mrs. Brown says, "I work with health **technicians,** doctors, the emergency service unit, **outpatient** services, job development, preschool workers and senior citizen workers."

Mrs. Brown adds, "A medical record technician is in the middle to help others. You have to be good in working with the people who are dealing with the patients."

In order to keep accurate records, an A.R.T. has to know medical codes, filing systems, medical machines, medical terms, some legal terms, typing, spelling and other skills related to record keeping.

Formal training for medical record technicians can be obtained in hospital schools and junior colleges. Associate degree programs in junior colleges require two years of study. Hospital-based programs require nine to ten months. Instruction approved by the AMA (American Medical Association) in collaboration with the AMRA (American Medical Record Association) includes medical **terminology, anatomy, physiology** and medical record procedures.

The college courses can be taken in a **correspondence** program, provided the person is employed in a medical record capacity, Mrs. Brown points out. Graduates of the medical record technicians programs become eligible to take the **accreditation** examination. On successful completion of the examination, the candidate is classified as an A.R.T.

Clerks do not need college courses.

A medical record technician can help others decide their hospital or clinic needs.

"There is a good deal of variety in the work," Mrs. Brown says. The hours generally are regular. Mrs. Brown works from 9:00 A.M. to 5:00 P.M., Monday through Friday. Her work environment is pleasant, she says, and she enjoys the fact that she has learned much about the entire hospital and health center operation.

Mrs. Brown's education did not stop with her college courses. She is a member of the Northeast Ohio Chapter of the American Medical Record Association. Through the Association, she keeps up on the latest record-keeping developments. Eventually, she would like to finish four years of college and become a medical record administrator. She advises taking a four-year college program if a person wants to get a good job in medical records.

Because of many factors—like **Medicare** and **Medicaid,** and the upgrading of nursing homes—the employment outlook for accredited record technicians is excellent for many years.

Some Related Jobs:

- Medical librarian
- Medical photographer
- Computer operator
- Medical clerk
- Medical record administrator
- Medical lab worker
- Technologist
- Receptionist
- Aide in a clinic
- Teacher

Carol Hedelund Intensive Care Nurse

Registered nurses, licensed practical nurses, nursing aides, orderlies and attendants account for about one-half of the total employment in health careers. Registered nurses are responsible for the kind and quality of all the nursing care that patients receive. They carry out physicians' instructions and supervise practical nurses and other non-professional personnel who help provide routine care and treatment of patients. Patients who are seriously ill or critically injured are admitted to the Intensive Care Unit. This section will tell you about a special kind of nurse—the intensive care nurse.

Let's assume one member of our family is seriously injured and will need constant, expert nursing care for a while. Someone like Carol Hedelund, R.N., will be at the patient's bedside.

"In intensive care situations," Ms. Hedelund says, "the nurse is the person who knows the patient's condition (or problem) best. The nurse is there when each specialist physician is there. She works with each department of the hospital. She is much more involved than members of any other department."

Carol has been working three years as an intensive care nurse. Before that she had been a general-duty nurse for one and a half years at a community hospital. She enjoys the challenge of intensive care nursing.

An intensive care nurse must be able to do all the things a registered general-duty nurse does: give medications; observe, evaluate and record symptoms, reactions and progress of a patient; assist in the rehabilitation of patients; and help maintain a physical and emotional environment that helps the patient recover. The most important qualification, however, for any nurse is a deep concern for all people and a desire to help them.

More than 815,000 persons—only about 2 percent of them men—work as registered nurses. About one-third of them work only part-time. "That is one of the advantages of being a nurse," Ms. Hedelund says. "You can work part-time and you can leave the profession for a while and come back."

"Nursing can be an incredibly rewarding job on a person-to-person level. People get better, you help them adjust. You support them when they are dying; you rejoice with them when they are recovering."

An intensive care nurse sometimes works extra long hours. There may also be a great amount of night work. It can be physically and emotionally fatiguing at times Ms. Hedelund notes.

The working conditions are not plush, she adds. "It's not an easy environment to work in, but it is stimulating and challenging—there is sickness, patient anxiety, and death.

Carol enjoys nursing on an intellectual level, too. "You are part of a team with a most rewarding goal," she says.

She recommends that boys or girls interested in nursing "take the usual high school science courses, like chemistry, biology and **physics.**" She does not believe learning Latin or German (the language of many medical terms) is necessary. It is helpful, however, especially if a degree in nursing is the aim of the student, because some colleges still have a language requirement.

Courses in college are specified by the university or college and usually include on-the-job training. Community colleges offer two-year Associate degrees in nursing. Hospitals and some independent colleges offer a three-year program leading to nursing diplomas. Some colleges offer four-or five-year programs that result in degrees in nursing. Many nurses go on to graduate work.

To become a registered nurse, a nurse must take a state examination. Exams are about the same in all states.

A girl or boy who thinks she or he may want to become a nurse should be sympathetic to the needs of others. A nurse must be able to follow orders precisely and to use good judgment in emergencies.

Earnings for nurses are good, and the employment outlook is excellent.

Some related nursing careers:

- Hospital nurse
- Nurse anesthetist
- Nurse supervisor
- Private duty nurse
- Public Health nurse
- Industrial nurse
- Armed Forces nurse
- Nurse in a doctor's office
- Teacher
- Nurse for a dentist
- Nurse in a home for the elderly
- Nurse on cruise ships
- School or recreation nurse
- Nurse's Aide

Nancy Cole Wallick, M.D. Physician

Nancy Cole Wallick, M.D. is among the 1 percent of women physicians in family practice. Only about 9 percent of the approximately 335,000 active physicians are women, but the number of women physicians and the number of family practitioners is growing.

If the family involved in the accident were among those in Dr. Wallick's practice, she would have been called to the hospital and later would have assisted in the recovery.

A family practitioner treats people of all ages. In Dr. Wallick's case, she has her office not far from her home. She sees patients as young as infants and as old as grandparents.

She is also a registered nurse who served in World War II. She was once a supervisor of nurses, so she knows health care from that viewpoint, too. She comments, "I went as high as I could go as a nurse, and I wasn't satisfied."

She returned to the University of Missouri, where she had obtained her Bachelor of Arts degree in **bacteriology** and psychology many years before, and enrolled in **premed** courses. After a year, she went to Cornell University Medical College in New York City to get her M.D. degree in 1951. (She had earned a Master's degree in nursing at Yale, done psychiatric nursing in the Pacific Theater in World War II, and was superintendent of nurses at a hospital in Connecticut before becoming a doctor.)

She loves being a doctor. "It's exciting to help someone who is confused and ill get back on top of his world," she says. "It's so much fun to practice medicine. People have the wrong impression that it is so hard. Really, for me, the hardest part was the premedical study. In medical school, studies become personal, and each year seems easier."

Dr. Wallick thinks that young people thinking about becoming doctors should experience different kinds of life-styles. "You'll have more feeling for people then," she says. "Take all kinds of jobs when you're young—anything that interests you—before going into general medicine."

To become a physician, a person must finish at least three years of college, then attend a school of medicine or **osteopathy** for three or four years to get an **M.D.** or **D.O.** degree along with the Bachelor's degree. Many doctors continue their education to become specialists. There are more than sixty specialties.

In the first years of college, a broad general education is required. In later years, specialized courses, laboratory work and on-the-job training are required. During the last semester, the educational program is called **"externship,"** and provides experience working with physicians in hospitals and clinics. After graduation, almost all doctors serve twelve months of **internship** in an approved hospital. Those wishing to become certified specialists must have two to four years of advanced training (residing) in the hospital, followed by two or more years in the speciality.

All doctors must be licensed by the state or the National Board of Medical Examiners. "Family practice is really a specialty," Dr. Wallick adds, "so you now take exams given by the American Board of Family Practice." Dr. Wallick is a member of the American Academy of Family Practice.

Her work week is varied and interesting. It goes like this: office hours are 1:00 A.M. to 6:00 P.M. on Monday; 8:15 A.M. to 4:15 P.M. on Tuesday and Thursday; 8:15 A.M. to noon on Wednesday; 8:15 A.M. to 6:00 P.M. on Friday. Each Thursday evening she runs a medi-

Dr. Wallick cares for babies as well as for other members of the family.

cal clinic at the City Mission, a place where men without homes or jobs stay for a while. She treats as many as are there, at no charge. "They are **transients,** so unless it's an emergency, they can't get help for simple conditions, even at a hospital," she says.

On Monday mornings, before her afternoon office hours, she goes to the hospital to visit her patients, attends a medical conference, and later meets with other doctors who have privileges there. She meets with specialists after lunch, then goes to her office.

"Visits to my office may run from a few minutes to an hour or an hour and a half," she says. She gives physical exams; treats sore throats, colds and other major and minor illnesses; **counsels** patients on why they are sick; teaches preventive medicine, and sometimes does minor surgery, like treating cuts or infections.

She regards teaching people how to avoid illness as a large part of her job. "Many people who want to be teachers would be good family practitioners," she says.

Family practitioners earn excellent incom , although less than the average of all doctors, including specialists. Dr. Wallick limits the number of patients she sees in order to give more time to each.

Persons who want to be doctors must have a strong desire to serve the sick and injured. They will have to study hard in school and later keep up with medical advances.

Career opportunities are unlimited, but getting into a medical school is sometimes difficult because of competition. Some sections of America, such as the Northwest, have more physicians than other states in relation to the population.

Many physicians have long days and nights and irregular hours. In the early years of their practice, they are often in debt because of the expense of equipment they need and because they have not yet established a **clientele.** Physicians must be emotionally stable. They must be able to deal with stress and patient worry. If they are surgeons, they need **manual dexterity.**

Some related physician careers:

- Internist
- General surgeon
- Pediatrician
- Psychiatrist
- General practitioner
- Obstetrician and gynecologist
- Anesthesiologist
- Pathologist

Winston H. Richie, D.D.S. Dentist

Suppose that in the accident one of the children chipped a tooth, and later it begins to hurt. A dentist like Winton H. Richie, D.D.S., will soon be seeing the child. More than 105,000 dentists practice in the United States. Nine of ten are in private practice.

Most of us visit the dentist. We may not like to, because we anticipate some discomfort and inconvenience. Having teeth fixed can also be expensive. Aware of these things, dentists today stress prevention of tooth decay and gum disease by providing **topical** applications of **fluorides, scaling** and polishing teeth, and adjustment of **occlusion.** Dentists are teachers as well as "tooth doctors." They tell patients how to care for their teeth and gums—how to brush and floss, and what foods to eat or avoid.

Dentistry might strike you as being a health career concerned mostly with equipment and techniques. Not so, Dr. Richie says. "Most important of all is getting along with people," he says. "Dentistry is a person-to-person relationship."

"In high school," he urges, "take courses that will help you to understand people. In dental school they will teach you *how* to do the things a dentist does. In addition to the preventive services already mentioned, dental schools teach the students to diagnose and treat existing oral diseases and abnormalities. They learn to restore decayed teeth, treat tissues surrounding teeth, provide artificial teeth and dentures, and straighten teeth.

A dentist usually gets a Bachelor's degree in college, goes to dental school for three or four years, and then takes the state board examinations—both written and **clinical.** Laboratory work and dental clinic work are included in the dental school's program. To become a specialist usually requires graduate education and successful completion of another test. The American Dental Association (ADA) recognizes eight specialties in dentistry: **orthodontics, oral surgery, pedodontics, periodontics, prosthodontics, endodontics,** public health dentistry, and **oral pathology.** (If you are not familiar with these terms, refer to them in the vocabulary.)

Dr. Richie advises potential dentists to study math and bookkeeping, too. As a businessman, a dentist should know what a **profit and loss statement** will look like. A dentist has a sizable investment in equipment. "You buy your hand tools as you go through dental school, and your credit is usually pretty good when you are graduated," Dr. Richie says. He figures the average investment for dental equipment is about $10,000. Group practice allows the dentist the advantage of sharing equipment. Dr. Richie recommends group dental practice even though he has a one-man operation.

Dr. Richie, 49, has been a dentist since 1952. He was graduated from high school and earned his Bachelor of Science degree and his Doctor of Dental Science degree from Western Reserve University, Cleveland.

Dr. Richie has three dental chairs in his rooms. A **dental hygienist** helps him three days a week. He has a **chairside dental assistant** and an office manager, and an **accountant** helps him with his books. He works about thirty-six hours a week, he says, but uses his office for bookkeeping and personal correspondence also.

He and his wife have four children, ages thirteen through nineteen, but he also manages to be active in his community. He has been on the City Council for three years. "By being known in the community, by a

One of the rewards of dentistry is a good income and the ability to buy a good home.

dedication toward other people and society, you help build your practice," he says. "It isn't absolutely necessary to be active in civic affairs, but it surely helps," he adds.

Dr. Richie gives these qualifications (besides liking people) for a dentist: *patience, good eyesight, manual dexterity, a pleasant personality, and being organized.* He adds more: "There have to be factors of motivation, pride and a desire to help others, too."

Dentists usually earn good incomes. They have regular working hours in pleasant offices that they can decorate to their own desires. They are not involved in life-or-death situations as physicians might be. They have **prestige** and status in their community. They can retire when they want to, or even in phases—gradually reducing their patient list.

The job outlook in dentistry is very good, but competition for places in dental schools has been high. The role of dental assistants has increased. Dr. Richie notes, "About 40 percent of a dentist's work can be done by assistants under his supervision." Far less education is required for dental assistants.

Some related jobs in dental health:

- Dental specialist
- Dental hygienist
- Dental assistant
- Dental laboratory technician
- Teacher in a school of dentistry
- Dental researcher
- Dental products engineer
- Dental writer

Jerelyn Bresnan, O.T.R. — Occupational Therapist

What if the father of the family in the accident injured his hands in such a way that he had to relearn the use of them before he could return to work? The injury also upset him emotionally, destroying his confidence. An occupational **therapist** at the hospital will help him. His problem will be evaluated and identified. If the hands are weak, he might be directed in an exercise program, plus an occupational activity, such as woodworking, to increase his hand strength. As the patient sees improvement in his functions, his self-confidence will be restored.

Jerelyn Bresnan, O.T.R. (Occupational Therapist Registered) is the kind of person who could aid him. Although she specializes in children's therapy, that is, helping children with physical disabilities, developmental problems, and learning disabilities, her skills could also be used for an adult. As a member of a health team, the occupa-

An occupational therapist helps people regain manual skills—and emotional stability.

tional therapist evaluates a patient's learning and performance abilities; then, through appropriate activities, the "OT," as she calls herself, helps the patient overcome physical or emotional handicaps that interfere with daily living. The OT works with all ages, from infants to the elderly, to make them as independent and well adjusted as possible.

Mrs. Bresnan is one of more than 7,700 registered occupational therapists working in the United States. More than 6,000 other persons work as their assistants. Most occupational therapists are women, but the number of men is increasing.

"Knowing you can help people with **disabilities** is one of the joys of the work," Mrs. Bresnan says. "You must have an interest in people, and you must be able to relate to them easily and well."

Most occupational therapists need to be able to teach manual or recreational skills, although some are in supervisory roles.

Mrs. Bresnan, who obtained her Bachelor's degree at the University of Southern California, explains that college courses for occupational therapists teach about the physical growth and development of children; for example, at what age a baby learns to use its thumb as a pincer with the other fingers to lift objects; how muscles work; the structure of the body; how the body's internal systems work; and about similar physical and neural (nervous system) growth patterns of human beings.

They also learn what motivates people. They study human psychology. They learn crafts like woodworking and weaving.

Mrs. Bresnan recommends "leaning toward the sciences in high school." During four years of college, the OT candidate will specialize in the final two years. Besides physical skills, the student will learn administration and organization.

An occupational therapist's job is never dull. Mrs. Bresnan describes a week of her work: "I might evaluate and treat patients, attend meetings in and out of the department, plan a program for a patient, supervise an assistant and schedule his work, assemble or make equipment, and counsel a patient and his family."

Mrs. Bresnan likes the contact with patients. She feels that occupational therapy is a growing field. "**Rehabilitation** is way behind—there is so much to learn about helping people function," she says. She also must pass a national certification test to become registered.

OTs are found in many different roles. About one in three works with emotionally **handicapped** persons. Besides helping the physically handicapped with therapy, the others evaluate, do research, educate, supervise or act as consultants. Some design new equipment for special problems.

"Being an OT can be physically tiring," Mrs. Bresnan said, "so some stamina is needed. An OT also must be able to write down what he or she is doing and must be able to relate to other professionals in the health field."

An aging population creates a need for more occupational therapists. Four out of five OTs work in hospitals, and most of these are in medium and large cities. The job outlook is good for well into the next decade.

Some related therapy jobs:

- OT director
- OT assistant
- Art therapist
- Speech therapist
- Physical therapist
- Researcher

W. Harold Sanders — Pharmacist

The family in the accident is back home now, but some of the discomforting after-effects remain. Medicines are needed for a while—perhaps for life.

A **pharmacist** at the hospital dispensed those medicines while the family was there. Now a neighborhood pharmacist begins to assist. Such a pharmacist is W. Harold Sanders.

Mr. Sanders has been a licensed pharmacist for twenty-five years. He supervises ten community drugstores that are part of a chain of 175.

"I started working in drug stores when I was 16, in 1943, as a clerk," Mr. Sanders says. He was graduated from high school, attended Western Reserve University for three years, then earned his Bachelor of Science degree after one more year at the University of Michigan. He majored in pharmacy there.

W. Harold Sanders is a pharmacist and a supervisor of ten drug stores

To become a pharmacist today, a student must have at least five years of study beyond high school. Two years are in prepharmacy general liberal arts and three are in pharmaceutical studies like **biochemistry, botany, zoology, pharmacology** and pharmacy administration. People-related courses like psychology, **philosophy** and **sociology** are included.

A year of internship is required. Mr. Sanders says, "This can be done in the summer between semesters. A state examination is taken before a pharmacist can become licensed. Some pharmacists go on to obtain

Master's and Doctoral degrees to become researchers or teachers.

The pharmacist at the independent corner drug store or in a chain store must be a good business person. "Taking economics is important in school," he says.

A look around one of his stores shows why. Besides the pharmaceutical department, there are sections for hair care products, greeting cards, gifts, cosmetics, tobacco, magazines, and even radios and other small household appliances. "It is essential today for a pharmacist to be a good merchant," Mr. Sanders says.

A pharmacist must work late sometimes.

There are about 133,000 licensed pharmacists in the United States. More than 110,000 of these work in community pharmacies as owners and partners or as employees. About 10 percent are women. "The number of women pharmacists is growing, however," Mr. Sanders says.

"A pharmacist has to be willing to move around," he points out. Since more than 50 percent of the drug business is in chain stores, according to Mr. Sanders, an employee must be willing to be transferred as needs arise.

Mr. Sanders worked in seven stores before he became a supervisor. Why does he like his work? "You work with people," he answers. "It's a respected profession. You have a relationship with people's health."

Pharmacy has it demands, however. A pharmacist must often be able to supervise other store employees. He or she must know how drugs interact. As an aside, Mr. Sanders recommends typing as a high school course. Prescriptions, merchandise orders and records all need to be typed. He would even make it a required course.

Being a pharmacist requires long hours of work, including night and weekend work. Although pharmacists are beginning to reduce the length of their work-week, they still put in at least forty-four hours a week.

Pharmacists years ago mixed their own medicines. That is done far less today. Most medicines come already mixed from the manufacturer, but the pharmacist still must know each drug's use, its effect and its possible side effects. They must be able to advise people on what medicines to use if a physician's prescription is not needed.

Ohio requires pharmacists to continue their education with at least fifteen hours of study a year. This can be done independently at home. In some cases the company will provide some of the education during the work day.

There will be many job openings for pharmacists through the mid-1980s because of the trend toward shorter work-weeks and the expanding need for medical care.

Some related jobs in pharmaceutical science and services:

- Manufacturer's representative
- Hospital pharmacist
- Researcher
- Pharmaceutical chemist
- Teacher
- Pharmacy assistant
- Public Health pharmacist
- Lab technician
- Inspector
- Tester
- Writer for journals

You have started to prepare for your career

A big reason for going to school is to learn skills that will help you earn a living when you become an adult. Subjects you are now studying contribute in some measure to career development.

Language Arts help you acquire skills in communication.

- To communicate, there must be a message, a sender, and a receiver. Listening and reading are "input" skills that help you develop the message. Speaking and writing are "output" skills that help you transmit the message. The message may be an idea, a feeling, or a directive. A common system of symbols (words) is required before the sender's message is correctly perceived by the receiver. In language arts courses, you get opportunities to improve your ability to communicate effectively.

Mathematics is a subject that can help you:

- analyze and solve problems, such as planning and implementing budgets, developing and maintaining schedules, and negotiating for salaries
- make computations necessary for solving problems involving numbers
- perceive and apply geometrical relationships necessary to do such things as follow directions and understand designs
- apply measurement concepts and skills necessary in determining or estimating such things as time intervals, distances, weights, and volumes

Social Sciences or Social Studies help you learn about economic and psychological matters such as:

- production, consumption, and leisure
- the division of labor and the use of capital
- human behavior and the different roles people in society fulfill

Science helps you acquire inquiry skills and develop perspectives on scientific problems. You learn to:

- gather data about objects in the real world through sensory perception and instruments
- analyze real situations (things that happen)
- interpret data in terms of ideas of scientists
- accept, reject, or modify information gathered
- apply knowledge gained to make rational decisions concerning large social problems

Health and Physical Education are subjects that can help you:

- acquire knowledge necessary to understand how health problems can be resolved constructively
- make intelligent choices of exercises and physical activity to promote optimal health

All subjects in which you have successful experiences can help you develop:

- an appreciation of the importance of learning
- self-confidence to confront similar experiences on the job

Some Ways That School Subjects Are Used in Health Cluster Careers

Workers in Health Cluster careers find that the subjects they studied in high school have helped prepare them as follows:

Art	
Hospital administrator	to be aware of color, form and design and its effect on the moods of hospital patients and staff
Medical record technician	to use color and design as a visual dimension for clarifying written reports
Nurse, doctor and dentist	to understand the effects of color, form and design on the moods of patients
Occupational therapist	to understand color, form and design as skills to be used in therapeutic activities with patients
Pharmacist	to understand the effect of color, form and design upon customers' consumer habits
English	
All careers	to communicate clearly, logically and precisely with patients and health care personnel
Health and Physical Education	
Hospital administrator	to be aware of hospital functions, community health needs, health planning and the work of health specialists; to develop good health and vitality
Medical record technician	to understand medical technology, anatomy and physiology; to develop good health and vitality

Nurse, doctor and dentist	to understand the structure and function of the body, disease concepts, nutrition principles, first aid and safety procedures; to develop good health and vitality
Occupational therapist	to understand the structure and function of the body; to develop good health and vitality
Pharmacist	to understand body functions and the effects of chemical substances on the body; to develop good health and vitality
Home Economics	
Hospital administrator	to understand family life problems and the principles of nutrition and consumerism
Medical records technician	to develop skills for using hands in operating record-keeping machines
Nurse, doctor and dentist	to understand the principles of nutrition, consumerism, and family and personal development
Occupational therapist	to understand the skills of food preparation and clothing construction useful in rehabilitating patients
Pharmacist	to understand the principles of nutrition, consumerism, and family and personal development
Industrial Arts	
Hospital administrator	to understand the processes required to solve technical problems involved in hospital management
Medical records technician	to understand the operation of machinery used
Nurse, doctor and dentist	to develop skills requiring manual dexterity; to handle tools safely and to anticipate safety hazards

Occupational therapist	to develop skills in working with wood, metals, ceramics and other materials useful in designing and constructing equipment
Pharmacist	to develop skills to work with technical and mechanical things
Mathematics	
Hospital administrator	to prepare budgets based on predicted income and expenses; to plan and implement programs permitted by the budgets
Medical record technician	to make statistical reports using graphs and percentages
Nurse	to take instrument readings of patients' vital signs (temperature, pulse, blood pressure and others); to read and interpret graphs
Doctor	to understand probability as a tool for diagnosing health conditions and prescribing remedial and preventive programs for clients; to conduct business affairs—charging fees, paying expenses
Dentist	to interpret dental research; to measure chemicals used for fillings
Occupational therapist	to design equipment requiring the application of measurement skills
Pharmacist	to measure quantities of drugs accurately in order to fill prescriptions correctly; to purchase health-related items and sell them for a profit
Music	
All careers	to understand how sounds reproduced by the human singing voice or by musical instruments might stimulate the feelings and emotions of hospital patients and staff

Science	
Hospital administrator	to understand scientific terms used in hospital practice
Medical records technician	to develop classification skills helpful in coding diseases and operations; to understand scientific terms used in hospital practice
Nurse, doctor and dentist	to acquire knowledge of the structure and function of living things and the physical and chemical properties of organic and inorganic matter; to develop inquiry skills and apply them in solving medical problems
Occupational therapist	to understand the interrelationships of body structure and body function; to understand the physics of human movement
Pharmacist	to understand the physical and chemical properties of drugs and the effects they have on body systems
Social Studies	
Hospital administrator	to understand human behavior in order to work effectively in community relations; to understand the division of labor and the use of capital
Medical record technician and pharmacist	to understand laws and regulations applicable to health care
Nurse, doctor, dentist and occupational therapist	to understand human behavior, the division of labor and the value of cooperation

What Health Careers Appeal to You?

To become a:	You should know:	You should like:
Hospital Administrator	Personnel records Supervising people Planning	People Variety Doctors
Hospital Planner	Building laws Zoning codes Safety laws	Paperwork Designs Architects
Public Health Officer	Infectious diseases Government regulations State laws	Statistics People Planning
Physician	Biology Medicines People's feelings	People Indoor work Long hours
Professor in Medical School	The human body Public speaking How to teach	Helping others learn Long-range results Students
Hospital Orderly	Hospital layout; Hospital regulations; How to handle violent patients	Helping others Taking orders Night work
Intensive Care Nurse	Medicines Symptoms Equipment	People Doctors Stress

To become a:	You should know:	You should like:
Psychiatric Nurse	Mental illnesses Emotions Drugs	People Tense situations Study
Nurse on a Cruise Ship	Symptoms of illnesses Medicines Emergency procedures	Water Absences from home People having fun
Occupational Therapy Director	How to give others orders How to solve personal problems; Regulations	Working with others Paperwork Responsibility for others
Pharmacist	Drugs Merchandising Accounting; Drug laws	People To run a business Evening work
Medical Record Technician	English How to organize Medical terms	Working alone Numbers Organizing
Medical Record Clerk	Typing Filing Spelling	Routine work Regular hours Taking orders
Dentist	Dental diseases Tooth chemistry Equipment	People Steady hours Using hands

To become a:	You should know:	You should like:
Dental Lab Technician	Chemistry Tooth composition Gum diseases	Working with your hands Exacting work Following instructions
Occupational Therapist	Crafts How the body works Record keeping	People Equipment Supervising

Examining Yourself

Can You See Yourself in Any of These People?

. . . . or do any of the related jobs appeal to you? Examine yourself to help decide. Answer these questions:

What are my abilities?

What is my personality?

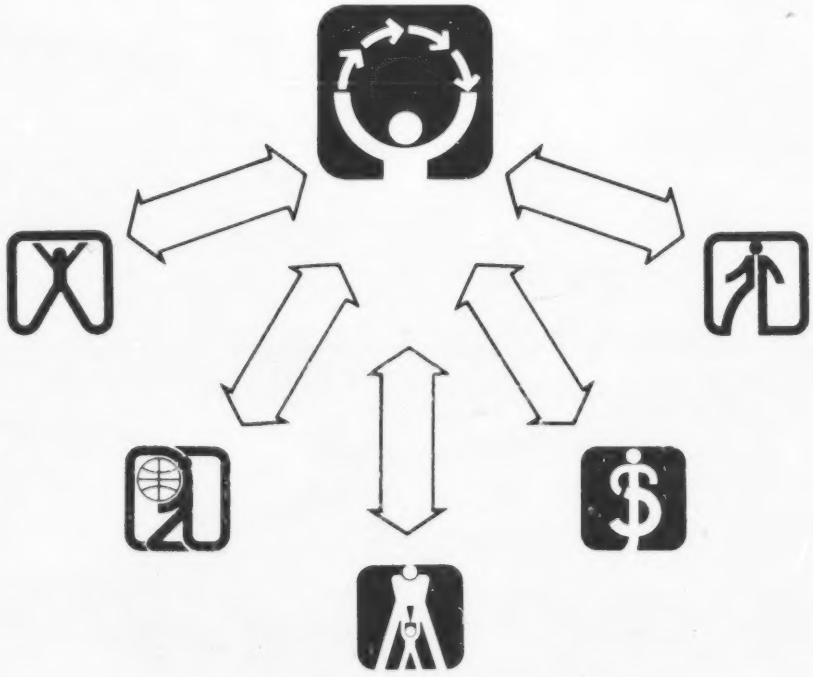
What are my interests?

What are my personal goals?

Making a Decision

If you think you would enjoy and be good in a health occupation . . . .

- Pick out some health careers that interest you and learn more about them by:
  - —reading (your public library has books that tell about jobs)
  - —talking to your parents and people who do this work
  - —visiting places where this work is done
- Take the school courses you will need.
- As you go through school, begin to eliminate the careers that you seem to like the least, and find out more about those you like the most.



Getting More Data

To plan a career, you should get all the information you can about the various choices. Several questions were suggested on pages 10 and 11 to help direct your investigation. Some answers have been provided by this book, but not all. More than one source has to be used. Reliable publications and well informed people can supply you with additional data. Getting the data and making career decisions is something you must do for yourself. The following activities were designed to help you explore health careers more fully.

Individual and Environment

- Prepare a list of several health professions that seem attractive to you.
- For each profession listed, write at least five interests and five abilities people in each career would have. Indicate how these interests and abilities are applied to the community. Information may be obtained from this book or sources recommended by the school librarian or guidance counselor.

World of Work

- Examine Tables 1 and 2 on pages 8 and 9. Note the sizes projected for the different health careers in 1980 and 1990. Rank your favorites from largest to smallest.
- Talk with local representatives from the public employment office, the hospitals, the medical association, or other health agencies. Determine what health career jobs are available in your community.
- At the public library, refer to several newspapers and professional journals (for example, *The Journal of the American Medical Association*) to determine how job openings in health careers are advertised.

Education and Training

- Obtain from the librarian or guidance counselor one or more of the publications listed on pages 56 and 57; also, refer to Table 1 and 2 on pages 8 and 9. Make a list of the educational requirements of different health careers in which you have an interest. Compare your favorites with some others. Which careers require no academic training beyond high school? Of these, which ones require a special kind of high school preparation; which require an on-the-job training period after employment starts?

Some careers require academic training for two, three, four, five or more years. Make a note of these.

- Interview people from local health agencies about what kind of and how much education is required for the different health careers in your community and elsewhere.

Economics

- Ask your guidance counselor for information about the educational costs of preparing for different levels of health careers.

Interview a hospital personnel director or public employment office representative for salary figures for different levels of health careers. Make a chart showing the salary ranges. Consider such factors as the geographic location of employment, the type of health institution in which the person is employed, and the experience of the worker.

- Write to the organizations listed in the resources on page 56 for the most current information on educational costs and salaries of different health careers.
- Ask your school or public librarian for source books on financial aid to students interested in preparing for health careers. Consider educational loans, scholorships, grants, and part-time employment possibilities.

Employability, Work Adjustment Skills

- Using the telephone directory, develop a list of at least five local health agencies. Ask them to send you sample job application forms. Practice completing the forms.
- Interview people from health agencies who are responsible for reviewing job applications to discuss what they look for.
- With your classmates, role play a job interview.

Resources

Write to These Organizations for Health Career Information

American Alliance for Health,
Physical Education, and Recreation
1201 Sixteenth Street, N.W.
Washington, D.C. 20036
(For careers in school health education)

American Dental Association
211 East Chicago Avenue
Chicago, Illinois 60611
(For careers in dental health)

American Medicine Association
535 North Dearborn Street
Chicago, Illinois 60610
(For careers in medicine)

American Osteopathic Association
212 East Ohio Street
Chicago, Illinois 60611
(For careers in osteopathy)

American Pharmaceutical Association
2215 Constitution Avenue
Washington, D.C. 20037
(For careers in pharmacy)

Bureau of Health Manpower Education
Information Office
National Institutes of Health
9000 Rockville Pike
Bethesda, Maryland 20014
(For all health careers)

National Health Council, Inc.
1740 Broadway
New York, New York 10019
(For all health careers)

Read These Publications For Health Career Information

Bureau of Health Resources Development, *The Supply of Health Manpower*, DHEW. Publication No. (HRA) 75-38. Washington, D.C.: Government Printing Office, 1974.
Descriptive profiles of the current and past supply of health manpower and projections of manpower supply to 1990. Covered are the major health professional categories, including a number of specialties within these categories, and selected groups of allied health professions and occupations.

Council on Medical Education, *Allied Medical Education Fact Sheet*. Chicago: American Medical Association, 1972.

Garber, Sheldon, Editor, "A Report by Blue Cross: The Hospital People," *Blue Print for Health*, Volume XXI, Number 1. Chicago: Blue Cross Association, 1967.
Explores how different people in health careers help the patient, the doctor, the hospital in meeting health needs. Includes section giving forty-seven addresses of organizations where additional information on health careers can be obtained.

National Center for Health Statistics, *Health Resources Statistics*. Washington, D.C.: Government Printing Office, 1975.

Annual publication includes statistics on education, employment status, type of activity and other factors for a variety of health occupations.

U.S. Department of Labor *Health Careers Guidebook*, Third Edition. Washington, D.C.: Government Printing Office, 1972.

Provides an overview of the health field, performance requirements for health occupations, sources of financial aid, and community health training information.

U.S. Department of Labor, *Dictionary of Occupational Titles*. Washington, D.C.: Government Printing Office, 1965

Occupational information in broad terms concerning most jobs in the American economy.

U.S. Department of Labor, *Occupational Outlook Handbook*, Washington, D.C.: Government Printing Office, 1974-1975.

Provides occupational information about what people in hundreds of occupations actually do on the job; what abilities and interests the jobs call for; what kind of schooling and other training is required for the jobs; what the working conditions are like, and what the job opportunities will be in the coming years. Published every other year.

U.S. Department of Labor, *Occupational Outlook Reprint Series*. Washington, D.C.: Government Printing Office, 1975. Reprints from the *Occupational Outlook Handbook*.

Bulletin No.

87 *Chiropractors*
88 *Optometrists, Optometric Assistants*
89 *Dental Occupations*
90 *Physicians, Osteopathic Physicians*
91 *Podiatrists*
93 *Medical Technicians, Technologists, and Assistant Occupations*
94 *Nursing Occupations*
95 *Therapy and Rehabilitation Occupations*
96 *Dietitians*
97 *Hospital Administrators*
98 *Medical Record Administrators, Medical Record Technicians and Clerks*
99 *Pharmacists*

Vocabulary

accountant	person in charge of financial records
accredit	to accept standards that qualify the graduates for admission to higher or more specialized institutions or for professional practice
administrator	person who is in overall charge of running an entire institution or a department of that institution
aide	person who acts as an assistant
anatomy	study of the structure of the human body
anesthetist	one who administers anesthetics
associate degree	academic award usually given by a junior college to someone completing a two-year course of study
attendant	one who takes care of another person
Bachelor's degree (baccalaureate)	academic award usually given by a college or university to someone completing a four-year course of undergraduate study
bacteriology	science that deals with bacteria
biochemistry	science that deals with chemical compounds and processes occurring in organisms
botany	science dealing with plant life
chairside dental assistant	person who prepares patients for examination or treatment, assembles instruments to be used and passes them to the dentist

clientele	all of a doctor's patients
clinical	pertaining to the sickbed or to a patient
correlate	to show a relationship between items
correspondence program	lessons and exercises mailed by a school to a student, which, when completed, are returned for grading
counsel	professional guidance to individuals
data	information
dental hygienist	person who works under the supervision of a dentist in removing deposits and stains from surfaces of the teeth, applying fluorides to prevent dental decay, helping in early detection of disease, taking X-rays of teeth and instructing the patient on proper oral health
D.O.	Doctor of Osteopathy; see osteopathy
emotion	strong or agitated feeling
endodontics	root canal therapy
externship	supervised practice of a nonresident doctor or medical student at a hospital
facility	something that is built for a particular purpose
fatiguing	tiring
fluorine	chemical compound sometimes used as a preventive of tooth decay
general practitioner	doctor who does not limit his practice to a speciality

geriatrics	branch of medicine that deals with problems and diseases of old age
group dental practice	formally organized dental care through the services of three or more dentists jointly using office space, equipment, and / or personnel
gynecologist	doctor who deals with problems and diseases of women
handicap	disadvantage that makes achievement usually difficult
internist	doctor who specializes in internal medicine
internship	period of supervised training of at least one year received by a recent medical school graduate while working and usually living in a hospital
interpersonal	involving relations between two persons
manual dexterity	skill and ease in using the hands
Master's degree	degree higher than Bachelor's degree, but lower than doctor's degree
M.D.	medical doctor
Medicaid	federal-state welfare program covering the cost of health care for people of low income
Medicare	federal health insurance for people aged 65 and over
monitoring	watching, observing or checking something

obstetrician	doctor who delivers babies
occlusion	closing of the teeth
oral pathology	identification of abnormal tissues and processes in and around the mouth
oral surgery	surgery of the mouth
orderly	hospital employee who does general work, attending especially to the needs of male patients
orthodontics	correcting irregularities of the teeth and poor "bite"
osteopathy	science of healing based on the importance of muscular and skeletal systems in total body health
outpatient	person who receives care but does not stay in the hospital
pathologist	doctor who diagnoses changes in tissues caused by disease
pediatrician	doctor who cares for children
pedodontics	dentistry for children
periodontics	treatment of gums and underlying bone
pharmacist	person who prepares, preserves and dispenses drugs
pharmacology	science of drugs
philosophy	search for truth through logic and reason
physics	natural science dealing with matter and energy

physiology	study of body functions
post-high school	after high school
premed	preparing for the advanced study of medicine
prestige	good standing in the eyes of people
profit and loss statement	report showing how much money was made or lost
prosthodontics	providing artificial replacements for missing teeth
psychiatrist	doctor who deals with mental, emotional or behavioral disorders
public health nurse	person who offers nursing care in the home or at a public health facility
receptionist	person who greets callers
rehabilitation	restoration to good health or useful activity
scaling	scraping and cleaning of teeth with an instrument
sociology	study of society, social institutions and social relationships
stable	not changing or fluctuating
syringe	device used to inject fluids
technician	a specialist in technical details of a subject or occupation
terminology	technical or special terms used in medicine, business, etc.

therapist	person trained in methods of treatment and rehabilitation other than the use of drugs or surgery
topical	pertaining to a particular place
transients	people who are not settled, established, or permanent in a given place
vital statistics	information relating to people's lives
zoology	science that deals with animals

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The Career Orientation Program at Grades 7 and 8 was the initial component of the K-10 Career Development Program and began in Ohio in 1970. In 1972, a *Career Orientation Curriculum Guide* was written and published through the inputs of personnel in the participating school districts. The *Guide* was revised in 1973, again utilizing local personnel. From these guides, 15 USOE occupational clusters are identified as containing information necessary to assist seventh and eighth grade students in making tentative career decisions for exploration activities in Grades 9 and 10.

This book was developed to provide students information about the career opportunities and occupational information in the cluster of "Health." It can be used to integrate career information with various subject areas at Grades 7 and 8.

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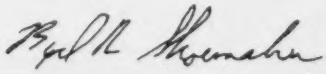

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